



1885.

LONG ISLAND SOUND SANITARY AUTHORITY.

ANNUAL REPORT

OF THE

NATIONAL OFFICE OF HEALTH.

WASHINGTON: 1885.

1893.

RIVER TYNE PORT SANITARY AUTHORITY.

CONSTITUTED BY LOCAL GOVERNMENT BOARD'S PROVISIONAL ORDER
CONFIRMED BY ACT OF PARLIAMENT (45 & 46 Vict., ch. lxiv.)

ELECTED BY THE CORPORATION OF NEWCASTLE :

ALDERMAN WILLIAM OWEN.
ALDERMAN THOMAS BURGESS WINTER.
ALDERMAN WILLIAM DAVIES STEPHENS (*Vice-Chairman*).
MR. WILLIAM EDWARD KIRBY.
MR. GEORGE CHRISTOPHER COATES.
DR. ADAM WILSON.

ELECTED BY THE CORPORATION OF GATESHEAD :

ALDERMAN EDWARD S. HINDMARSH.
MR. JOHN TODD.

ELECTED BY THE CORPORATION OF TYNEMOUTH :

ALDERMAN JOHN FOSTER SPENCE, MAYOR OF TYNEMOUTH (*Chairman*).
ALDERMAN JOSEPH GREEN.

ELECTED BY THE CORPORATION OF SOUTH SHIELDS :

DR. THOMAS MICHAEL YOUNG.
MR. THOMAS DUNN MARSHALL.

ELECTED BY THE CORPORATION OF JARROW :

ALDERMAN GEORGE H. DEXTER.

ELECTED BY LOCAL BOARDS ON THE NORTH BANK OF THE RIVER TYNE :

MR. THOMAS CRAWFORD.

ELECTED BY LOCAL BOARDS ON THE SOUTH BANK OF THE RIVER TYNE :

VACANT.

OFFICERS :

Medical Officer of Health	HENRY E. ARMSTRONG, D.Hy.
Assistant Medical Officer of Health ...	JOSEPH F. ARMSTRONG, M.D.
Clerk	R. SHERITON HOLMES.
Treasurer	JOHN J. PACE.
Inspector of Nuisances	CHARLES IRVIN.

Offices : Town Hall, Newcastle-upon-Tyne

Inspector's Station : Mill Dam, South Shields.

River Tyne Port Sanitary Authority.

HEALTH DEPARTMENT, TOWN HALL,

NEWCASTLE-UPON-TYNE,

23rd January, 1894.

MR. ALD. JOHN FOSTER SPENCE, J.P.,

CHAIRMAN OF THE RIVER TYNE PORT SANITARY AUTHORITY.

SIR,

I have the honour to present herewith my Annual Report for the year 1893,
in which is included that on CHOLERA.

I am, Sir,

Your obedient Servant,

HENRY E. ARMSTRONG, D.Hy.

Medical Officer of Health.

RIVER TYNE PORT SANITARY AUTHORITY.

Report of the Medical Officer of Health for the Year ended 31st December, 1893.

Infectious Disease in the Port.

During the year twenty-six patients have been admitted to the Floating Hospital, as compared with a total of seven in the previous year.*

Particulars as to the cases and their issue are given in Appendix A.

51 Vessels have been visited by the Medical Officer of Health or his Assistants, on account of known cases of sickness on board. Of these, 30 came under examination between the beginning of September and the end of November. The cases of ailment inquired into during these months were for the most part Diarrhoea.

Disease reported on Shipboard during voyage, on arrival, or whilst in Port during the year 1893.

SMALLPOX.

Date of Arrival.	NAME OF SHIP.	From.	No. of cases of Disease.		REMARKS.	Notes on Arrival in the Tyne.
			On Voyage	On or after Arrival.		
Jan. 18	s.s. "Bremner" ...	Smyrna, London, and Hull.	2	...	Infection contracted at Smyrna. 1 case removed at London and 1 at Hull.	All well.
" 30	bk. "Routenburn"	Rio de Janeiro & San Francisco.	1	...	Case removed at Rio. ...	"
Mar. 11	ketch "Amy" ...	Dundee ...	1	...	Case removed to Hospital at Aberdeen.	"
April 14	s.s. "Ardlethen" ...	London ...	1	...	Case removed at Aberdeen. ...	"
June 16	s.s. "Kingsley" ...	London ...	...	1	Captain removed to Hospital at South Shields†.	"
" "	s.s. "India" .	New York ...	1	...	Case removed at New York. ...	"
Aug. 15	s.s. "Emerald" ...	Fishing Grounds	...	1	Removed to Hospital, North Shields.†	Vessel disinfected.
" "	s.s. "Northumbria"	" "	...	1	Removed to Hospital, North Shields.†	"
" 25	s.s. "Tynesider" ..	London ...	1	...	Case removed at London: vessel disinfected there.	All well.
TOTAL			7	3		

* The bodies of two seamen, from the s.s. "Myrtle Branch" and the barque "Jennie," who had died from Asiatic Cholera in June and September respectively, were removed to the Floating Hospital previous to interment.

† These cases developed on shore shortly after the arrival of the respective vessels.

DIARRHŒA AND CHOLERAIC DIARRHŒA.

Date of Arrival.	NAME OF SHIP.	From.	No. of cases of Disease.		Date of Arrival.	NAME OF SHIP.	From.	No. of cases of Disease.	
			On Voyage.	On or after Arrival.				On Voyage.	On or after Arrival.
Jan. 13	s.s. "Beechdene"...	Rotterdam...	3	...	June 15	ship "Union" ...	Brought forward	54	33
" 17	s.s. "Alston" ...	"	...	3	" 15	s.s. "Loch Katrine"	Dunkirk ...	...	1
" 18	bk. "Falstaff" ...	"	...	2	" 24	s.s. "Glenmorven"	Ibrail ...	3	...
" 27	s.s. "Elsie Marie" ...	Geestemunde	...	1	" 3	s.s. "Glenmavis" ...	Bremen ...	7	...
" 30	ship "Routenburn"	Rio Janeiro & San Francisco	6	...	" 5	schr. "Marie" ...	Hamburg ...	4	...
Feb. 12	s.s. "Marquis de Mudala" }	Bilbao ...	...	1	" 6	s.s. "Bedouin" ...	Riga ...	...	1
" 13	bk. "Gladys" ...	Hamburg ...	1	...	" 11	s.s. "Eident" ..	Copenhagen	6	...
" 15	s.s. "Vibran" ...	Antwerp ...	1	...	" 16	s.s. "Kepler" ...	Antwerp ...	...	1
" 20	s.s. "Lobelia" ...	"	...	2	" 31	schr. "Jacob Marie"	Harburg ...	...	1
" 20	s.s. "Guy Colin" ...	Bremen ...	...	3	Aug. 4	bk. "Copsfield" ...	Grimsby ...	...	1
" 23	s.s. "Nordcap" ...	Bergen ...	2	...	" 4	s.s. "Eros" ...	Rosario ...	6	...
Mar. 7	bk. "Boldia" ...	Hamburg ...	...	2	" 4	s.s. "Eros" ...	Dunkirk ...	3	...
" 7	s.s. "Ixia" ...	Skien ...	5	...	" 5	s.s. "Beaconlight"	Bremen ...	...	1
" 12	bk. "Beechwood"	Pisagua ...	4	...	" 7	s.s. "Rydalholme"	Hull ...	...	2
" 14	bk. "Selene"*	Hamburg ...	...	1	" 9	s.s. "Ben Clune"...	Amsterdam	1	...
" 17	ketch "Emily Lloyd"	London ...	...	1	" 14	s.s. "Gondola" ..	Hamburg ...	2	...
" 21	bk. "Centaur" ...	San Francisco	...	4	" 16	s.s. "Alcester" ...	Ghent ...	2	...
" 21	s.s. "Vesta" ...	Rouen ...	...	1	" 21	s.s. "Vanessa" ...	Bilbao ...	...	1
" 21	s.s. "Maggie" ...	Elsinore ...	...	1	" 24	s.s. "Port Melbourne"	Dunkirk ...	9	...
" 22	s.s. "Harrogate" ...	Bilbao ...	1	...	" 24	s.s. "Ardlethen" ...	London ...	1	...
" 23	s.s. "H. E. Omstead"	Esbjerg ...	...	1	Sept. 8	s.s. "Cyrus" ...	Cherburg ...	3	...
" 25	s.s. "Burlington"...	Nykjobing ...	1	...	" 15	s.s. "Scarsdale" ...	Rotterdam...	1	...
April 1	s.s. "Coventry" ...	Hamburg ...	...	1	" 17	bk. "Svea"*	Gefle ...	...	2
" 1	s.s. "Napoli" ...	"	...	1	" 21	s.s. "Beneficient"...	Ergastiria ...	...	3
" 3	s.s. "Wansbeck" ...	Eupatoria ...	3	...	Oct. 4	s.s. "Zeno" ...	Leith ...	3	...
" 3	schr. "Hildred" ...	London ...	...	1	" 9	s.s. "Hollander" ...	Amsterdam	1	...
" 25	s.s. "Drylesdale" ..	Hamburg ...	2	...	" 9	s.s. "Lucerno" ...	Rotterdam...	1	...
" 25	s.s. "Nerva" ...	Grimsby ...	...	1	" 14	bk. "Seaforth" ...	Portland (Oregon)	1	...
May 2	s.s. "Aberenda" ...	Hamburg ...	...	1	" 18	s.s. "Glenisla" ...	Cronstadt & Dundee	...	1
" 3	s.s. "Windthorpe"	Amsterdam	7	...	" 24	s.s. "Crete" ...	London ...	...	1
" 10	s.s. "Resolven" ...	Rotterdam...	5	...	" 28	s.s. "Invermay" ...	Dordt ...	1	...
" 10	schr. "Gredo" ...	"	1	...	" 31	s.s. "Edwin" ...	Hartlepool...	...	1
" 16	s.s. "Arbib Broth'rs"	Hamburg ...	7	...	Nov. 4	s.s. "Jno. Ormston"	Hamburg ...	1	...
" 22	s.s. "Isle of France"	"	3	...	" 7	s.s. "Longships" ...	Calcutta ...	...	4
June 3	s.s. "Palatine" ...	"	...	1	" 7	s.s. "Ardmellie" ...	Dunkirk ...	1	...
" 4	s.s. "Dolwyk" ...	Rotterdam...	...	1	" 11	bk. "Nordbyad" ...	Penang ...	2	...
" 10	s.s. "Enchantress"	Hull ...	2	...	" 13	s.s. "Earneliff" ...	Copenhagen	4	...
" 13	s.s. "Bede" ...	Rotterdam...	...	1	" 15	s.s. "International"	London ...	..	2
" 14	bk. "Victoria Nyassa" }	London ...	...	2	" 24	s.s. "Knight of St. George" }	Bremerhaven	1	...
					" 29	s.s. "Ladoga" ...	Amsterdam	2	...
					Dec. 29	s.s. "Gravina" ..	London ...	...	1
		Carried forward	54	33					
							TOTAL ...	120	57

* Removed to Tyne Floating Hospital.

ENTERIC (OR TYPHOID) FEVER.

Date of Arrival.	NAME OF SHIP.		From.	No. of Cases of Disease.		REMARKS.	Notes on arrival in the Tyne.
				On voyage.	On arrival, etc.		
Feb. 15	ship "Metropolis"	...	River Plate ..	1	...	Died, and was buried at sea ...	All well.
" 28	s.s. "Suez"	...	Alexandra } Via Hull.	1	...	Landed at Alexandra ...	"
" 28	s.s. "Romona"	...	Pernambuco	1	...	Sent to Hospital at Pernambuco ..	"
Mar. 6	sch. "T. W. Dodd"	...	London ...	...	1	Removed to Royal Infirmary, Newcastle-upon-Tyne, and died there	.....
" 8	s.s. "Samuel Tyzack"	...	Valasco ...	1	...	Landed at Valasco. Fatal ...	All well.
" 16	bk. "Ariel"	...	Bergen ...	...	1	Removed to Tyne Floating Hospital (See Appendix A.)	.....
" 28	s.s. "Subetjelma"	...	Rotterdam ...	3	..	Sent to Hospital at Rotterdam ...	All well.
April 8	s.s. "Marica"	...	Dunkirk ...	3	...	Sent to Hospital at Dunkirk ...	"
May 3	s.s. "Keroula"	...	Terneuzen ...	1	...	Landed at Bilbao ...	"
" 5	ship "Alcinous"	...	San Francisco	1	...	During passage ...	"
" 5	s.s. "China"	...	Dunkirk ...	2	...	Left in Hospital at Dunkirk ...	"
" 16	s.s. "Arbib Brothers"	...	Hamburg ...	1	...	Landed at Gibraltar. Died ..	"
" 17	s.s. "Sumatra"	...	Antwerp ...	1	...	Landed at Antwerp ...	"
" 29	s.s. "Falshaw"	...	Amsterdam ..	1	...	Left at Bombay ...	"
June 15	sch. "Catherine"	...	Folkstone ...	...	1	Removed to Tyne Floating Hospital (See Appendix A.)	.....
" 22	s.s. "Glentana"	...	Dunkirk ..	1	...	Landed at Dunkirk ...	All well.
" 25	s.s. "Myrtle Branch"	...	Nantes ...	1	...	Recovered on arrival here*
" 28	s.s. "Elpis"	...	Taganrog ...	1	...	Left at Constantinople ...	All well.
July 3	s.s. "Glenmorven"	...	Hamburg ...	1	...	Case fatal; buried at sea ...	"
" 26	s.s. "Kentigern"	...	Bremen ...	1	...	Case fatal; buried at sea ..	"
" 29	sch. "Venus"	...	Havre ...	...	1	Removed to Tyne Floating Hospital (See Appendix A.)	.....
Aug. 12	s.s. "Abbeymoor"	...	Rotterdam ...	1	...	Case fatal on voyage ...	All well.
" 16	s.s. "Grenadier"	...	" ...	...	1	Case reported soon after passenger went on shore ...	"
" 27	bk. "Schiller"	...	San Francisco	2	...	Both fatal on voyage ...	"
Sept. 11	s.s. "Derwentholme"	...	London ...	1	...	Removed to Hospital at London ..	"
" 12	bk. "Thunderbolt"	...	Antwerp ...	3	...	Sent to Hospital at Antwerp ...	"
Oct. 9	bk. "Sirra Paremia"	...	San Francisco	1	...	Landed at San Francisco ...	"
Nov. 13	s.s. "Earncliff"	...	Copenhagen ..	1	...	Sent to Hospital at Copenhagen ..	"
" 24	sch. "Esmeralda"	...	Bremen ...	...	(Suspected) 1	Removed to Tyne Floating Hospital (See Appendix A.)	.....
" 28	bk. "Garsdale"	...	Hull ...	1	...	Case fatal; buried at sea ...	All well.
Dec. 18	s.s. "Elsie Marie"	...	Swinemunde.	...	1	Removed to Tyne Floating Hospital (See Appendix A.)	.....
			TOTAL ...	32	7		

* See Table on Cholera, page 16.

MALARIAL FEVER.

Date of Arrival.	NAME OF SHIP.	From.	No. of Cases of Disease.	
			On voyage.	On arrival, etc.
Jan. 30	s.s. "Afrikander"...	Antwerp ...	1	...
Feb. 15	bk. "Largetta" ...	Rangoon ... Via London.	2	...
" 20	s.s. "Port Albert" ..	Bombay....	...	4
Mar 3	bk. "Hoppet"	Accapatas ..	2	...
" 16	bk. "Siloam"	Rotterdam ...	2	...
April 4	s.s. "Highland Prince" }	Antwerp	7	...
" 27	s.s. "Merica"	Savannah ....	...	6
May 27	s.s. "Bala"	Ibrail	1	...
June 9	bk. "Emilie Dingle"	Hamburg	4	...
" 30	s.s. "Warrambool" ..	Bombay.... Via London.	9	...
Aug. 19	s.s. "Castle Garth" ..	Rotterdam ...	...	1
" 22	s.s. "Lord Irene" ...	Amsterdam..	2	...
" 24	s.s. "Hessle"	Hamburg ...	2	...
" 25	bk. "Concordia" ...	Savannah ...	1	...
Sept. 28	s.s. "Richard Kelsall" }	Hamburg ...	4	...
Oct. 4	bk. "Birkdale"	Astoria	4	...
" 10	bk. "Coralunas" ...	Bremen	4	...
" 16	s.s. "Grangewood" ..	Hamburg .....	...	1
" 30	s.s. "Silverdale" ...	Rotterdam...	7	...
TOTAL ...			52	12

DYSENTERY.

Date of Arrival.	NAME OF SHIP.	From.	No. of Cases of Disease.	
			On voyage.	On arrival, etc.
Jan. 10	s.s. "Urbino"	Rotterdam...	...	1
Feb. 11	s.s. "Henrietta H." ..	Hamburg ...	..	1
" 28	s.s. "New Quay" ...	Bilbao	3	...
June 10	s.s. "Enchantress" ..	Hull	2	...
" 23	s.s. "Willow Branch"	Hamburg....	1	...
" 30	s.s. "Dora Foster" ..	"	2	2
July 13	ship "Danmark" ...	Portland..... (Oregon.)	2	...
" 18	s.s. "British Prince"	Hamburg. ...	1	...
Aug. 4	s.s. "Persis"	Dunkirk.....	3	...
Oct. 14	bk. "Seaforth"	Portland	3	...
Nov. 1	s.s. "Ruby"	London..... (Oregon.)	3	...
" 7	s.s. "Longships" ...	Calcutta.....	5	...
TOTAL ...			25	4

YELLOW FEVER.

Feb. 11	s.s. "Henrietta H." ..	Hamburg ..	1	...
Aug. 4	bk. "Jenny"	Rio..... Via Quebec.	2	...
" 4	ship "Menia"	Rio..... Via Iquique.	4	...
Sept. 27	bk. "Gratia"	Santos..... Via Quebec.	3	...
Nov. 11	bk. "Eos"	Pernambuco.	4	...
TOTAL ...			14	...

DIPHTHERIA.

Date of Arrival.	NAME OF SHIP.	From.	No. of Cases of Disease.		REMARKS.
			On voyage.	On arrival, etc.	
Aug. 31	s.s. "President Ludwig" }	Dunkirk.....	...	1	{ Removed to Tyne Floating Hospital. (See Appendix A.) Case sent to Hospital at Lowestoft.
Dec. 7	brig "Boatswain" ..	Lowestoft ...	1	...	
TOTAL ...			1	1	

SUSPECTED DIPHTHERIA.

Oct. 11	bk. "Moya"	Gefle	1	{ Removed to Tyne Floating Hospital. (See Appendix A.)
Dec. 27	bk. "Stavanger" ...	Rangoon	1	
TOTAL	2	

MEASLES.

July 19 to 26	Training Ship Wellesley	{ Tyne	10*
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INFLUENZA.

69 cases reported on voyage, etc.

* Removed to Tyne Floating Hospital. (See Appendix A).

Vessels Arriving from Infected or Suspected Ports.*

The following return shows the number of vessels boarded in this Port by the Officers of the Port Sanitary Authority, on account of coming directly or otherwise from Foreign Ports infected, or suspected to be infected, with Cholera or Smallpox :—

1893.	From Infected Ports.		From Suspected Ports.		TOTALS.
	Directly.	Indirectly.	Directly.	Indirectly	
January... ..	54	29	5	7	95
February	65	17	13	10	105
March	86	5	9	4	104
April	68	9	8	4	89
May	82	5	14	2	103
June	123	6	2	3	134
July	96	3	3	5	107
August	176	19	14	10	219
September	262	41	20	17	340
October... ..	397	21	11	22	451
November	172	24	19	27	242
December	61	13	12	16	102
Total	1642	192	130	127	2091

* See opposite page.

Vessels arriving in the Tyne from infected ports were boarded by the Officers of the Tyne Port Sanitary Authority as under :—

NAME OF PORT.	TO THE TYNE.		NAME OF PORT.	TO THE TYNE.	
	Directly.	Indirectly		Directly.	Indirectly
	No. of Vessels boarded.			No. of Vessels boarded	
Hamburg	437	5	Brought forward ...	1,394	103
Harburg	13	...	Norderham	2	...
Rotterdam	238	13	St. Malo	3	...
Amsterdam	86	2	Trouville	12	...
Dordt	28	1	Nantes	7	...
Antwerp	55	9	Tonning	9	...
Ghent	31	...	Batoum	2	...
Zaandam	5	3	Archangel	6	...
Terneuzen	10	...	Dieppe	19	1
Dunkirk	54	...	Honfleur	2	...
Rouen	44	...	Ostend	9	...
Caen	39	1	Le Vivier	16	...
Calais	20	...	Boulogne	11	1
Havre	63	2	Abo	7	...
Treport	5	...	Brake	3	...
Gravelines	3	...	Zierickzee	2	...
St. Nazaire	9	3	St. Petersburg	10	21
Flushing	11	1	Cronstadt	15	10
Memel	5	...	Brest	7	7
Dantzic	8	4	Libau	2	3
Riga	9	13	*Smyrna	11	13
Hull	79	...	Odessa	7	7
Grimsby	68	...	Nicolief	1	2
Bremen	19	1	Poti	3	...
Bremerhaven	7	2	Konigsberg	4	...
Stettin	16	2	Helsingfors	2	...
Rostock	3	...	Bilbao	57	12
Papenburg	2	2	Bombay	2	6
Ibrail	7	18	Fécamp	2	...
Sulina	6	17	Delsfiel	4	...
Cherburg	7	3	Leer	2	...
Swinemunde	5	1	Valencia	9	6
Carentan	2	...			
Carried forward ...	1,394	103	Total	1,642	192

NOTE.—The whole of the above ports were infected with cholera.

Summary.

11 vessels arrived directly and 13 indirectly from a port infected with smallpox.

1,642 „ „ 192 „ ports „ „ cholera.

1,653* 205*

* One port (Smyrna) was infected with both smallpox and cholera, hence the difference in the above totals.

General Sickness of Ships' Companies.

In continuance of the system begun during 1889, the masters of all vessels arriving in the Tyne, and visited by the Officers of the Authority during the year under report, have been interrogated as to the general sickness of those on board during the voyage. The diseases, as entered in the ships' logs, either during voyage or in port, or, in cases admitted to hospital and diagnosed by ourselves after arrival here, are stated in a Table of 782 cases (see Appendix B). The corresponding total during 1892 was 613.

Emigrants.

Emigrant vessels coming to the Tyne have, as heretofore, been visited by the Inspectors on arrival, and kept under supervision whilst in Port.

Information as to Emigrants debarking here and proceeding overland to other British Ports, continues to be forwarded to the Medical Officers of Health of the respective Ports.

The number of Emigrants passing through the Tyne Port during 1893, so far as is known, was as follows :—

						No. of Emigrants.
For America by White Star Line from Liverpool	...	...	...	...	...	120
„ „ „ Cunard Line „ „	...	...	...	...	...	213
„ „ „ Dominion Line „ „	...	...	...	...	...	212*
„ „ „ Inman Line „ „	...	...	...	...	...	17
„ „ „ American Line „ „	...	...	...	...	...	42
„ „ „ Guion Line „ „	...	...	...	...	...	20
„ „ „ State Line „ Glasgow	...	...	...	...	...	9
„ „ „ Allan Line „ Liverpool	...	...	...	...	...	255
„ „ „ Anchor Line „ Glasgow	...	...	...	...	...	66
„ „ „ Beaver Line „ Liverpool	...	...	...	...	...	19
„ „ „ Union Line „ „	...	...	...	...	...	3
„ „ „ Wilson Line „ Hull	...	...	...	...	...	4
Destination not ascertained	...	...	...	...	...	35†
Total						<div style="border-top: 1px solid black; border-bottom: 3px double black; display: inline-block; width: 100px; text-align: right;">1,015</div>

* Includes 60 Russian Jews.

† Includes 21 Russian Jews, who left for Liverpool, Leeds, and Hull before their ship was visited. The Medical Officers of Health of the respective places were duly informed.

General Sanitary Work.

The following is the return of inspections made and other work done by Inspector Irvin and his assistants :—

Vessels inspected during the year 1893 :

British Steamers	...	...	...	...	6,071
„ Sailing Vessels	...	...	...	...	1,526
„ Fishing „	...	...	...	...	625
Foreign Steamers	..	...	...	...	1,860
„ Sailing Vessels	...	...	...	...	1,245
Total	...	...	...	...	11,327*
Extra Visits paid	...	...	...	...	2,286
Visits to Water Boats	..	...	...	...	52
„ Gangways...	...	...	...	...	44†
Total Number of Visits	...	...	...	...	13,709‡

The Nationalities of the Vessels were as follows :—

British	...	...	...	...	8,222
Danish	..	...	...	...	525
Norwegian	...	...	...	...	883
German	...	...	...	...	660
Swedish	...	...	...	...	295
French	...	...	...	...	237
Spanish	...	...	...	...	178
Russian	...	...	...	...	167
Greek	...	..	...	...	13
Italian	..	...	...	...	35
Dutch	...	...	...	...	101
Austrian	...	...	...	...	9
Belgian	...	...	...	...	2
Total	...	...	...	...	11,327

Of the above Vessels the Sanitary condition was as follows :—

Good	...	...	...	...	8,515
Passable	...	...	...	...	987
Defective	...	...	...	...	1,825
Total	...	...	...	...	11,327

* An increase of 573 on the return for the previous year.

† The Gangways of the Tyne General Ferry Company (22 in number), extending from the Fish Quay, North Shields, to Elswick, have been inspected twice, and, with the exception of one, on which was a defective W.C., since repaired, were found in good condition.

‡ An increase of 1,475 over the number in the previous year.

The number of Vessels inspected during each of the last fifteen years has been as follows ;—

In 1879	...	...	...	...	2,410
„ 1880	...	...	...	...	2,997
„ 1881	...	...	...	...	3,309
„ 1882	...	...	...	...	6,623
„ 1883	...	...	...	...	11,572
„ 1884	...	...	...	...	12,078
„ 1885	...	...	...	...	13,530
„ 1886	...	...	...	...	12,139
„ 1887	...	...	...	...	13,045
„ 1888	...	...	...	...	12,819
„ 1889	...	...	...	...	13,566
„ 1890	...	...	...	...	12,018
„ 1891	...	...	...	...	11,533
„ 1892	...	...	...	...	9,852
„ 1893	...	...	...	...	11,327

The total number of arrivals in port during the year, as stated by the Customs, is 15,270,* or 2,341 more than during the previous year.

The structural defects of Vessels observed include the following :—

	Cases.	Defect Remedied on Notice.	Pending.
Insufficient Ventilation	45	45	—
Iron Deck to Line with Wood..	28	25	3
Paint Locker in bad position...	39	39	—
Defective Drainage	42	42	—
Defective Lighting	31	31	—
Defective Water Closets	33	32	1
Forecastle Deck Leaking	29	29	—
Side Scuttles to Re-fit	67	67	—
Totals	314	310	4§

Notices were served, or orders given, to abate nuisances or remedy sanitary defects, either in the crew spaces, closets, peaks, holds, or bilges, as follows :—

British Steamers	...	...	810
„ Sailing Vessels	..	...	253
„ Fishing Vessels	...	...	10
Foreign Steamers	...	...	409
„ Sailing Vessels	...	...	343
			<u>1,825†</u>

All are known to have complied with requirements, except a small number of cases which left the port before they could be re-visited.‡

* From a return courteously furnished by Mr. J. J. HEAD, Collector of H.M. Customs.

§ At the end of the year these were being attended to.

† An increase of 740 over the number for the previous year.

‡ Note is taken of these Vessels, and, if they return, they are looked after ; if bound to British Ports, advice is sent to the Sanitary Authorities.

Total number of crews of Vessels visited by the Inspectors ...	143,932
„ passengers „ „ ...	24,795
„ emigrants arriving in the Tyne ...	1,015
Total ...	169,742*
Vessels arriving Coastwise and inspected ...	5,527
Fishing Vessels arriving Coastwise and inspected ...	625
Vessels arriving from Foreign Ports and inspected ...	5,175
Total ...	11,327

Special Cargoes Inspected.

Among the different Cargoes examined by the Inspectors were the under-mentioned :—

Description.	Rags.	Bones.	Onions.	Wheat.	Foreign Fish.	Potatoes.	Fruit.	Total.
No. of Consignments Examined }	113	13	15	248	779	124	111	1403†

Water-Boats and Water Supply to Ships in Port.

The water-boats have been examined as usual. 52 visits were paid to 31 different boats. All were found in good condition.

In 342 cases the *drinking water* of ships, of which 221 came from Ports infected with cholera, has been changed, and the purification of the tanks has been seen to by the Inspector, acting under the direction of the Medical Officer of Health. No complaint respecting the water supply to any ship has been made to any Officer of the Authority.

Food Inspection.

The Food on board of 14 vessels was inspected and found satisfactory.

Advices as to Sickness

on shipboard, and other matters, continue to be received from and forwarded to the Health Departments of other British Port Sanitary Authorities.

Clothing and Bedding.

42 vessels and several lots of clothing or bedding have been **disinfected**. 304 Beds have been burnt, and 40 lots of filthy clothing have been destroyed, on account of infection.

Passenger Steamers.

The Passenger Steamers arriving continue to be regularly visited and examined.

* An increase of 28,118 over the number for the previous year.

† An increase of 657 over the number for the previous year.

Fishing Boats.

The total arrival of fishing vessels at the Quay, North Shields, steam and sailing, is *16,632 (6,580 Trawlers and 10,052 Herring Boats) as compared with a total of 14,116 in the previous year. 10 of these, in foul condition, were cleansed and deodorized on notice from the Inspector. The rest were in good order.

Large consignments of Herring and other Fish come from Denmark, Norway, and Sweden.

Overcrowding,

Three cases under this heading have come under observation. In each case Notice to abate was served and complied with.

Smoke Nuisance.

The Inspector reports that 26 observations of evolution of dense smoke have been made, and that in each case the offender has been communicated with. This is an increase of twelve cases over the number in the previous year.

Regulations.

Copies of Regulations issued have, as usual, been posted on all gangways, and delivered on board of vessels in the port.

Foul Cattle Ships.

The Inspector reports that 2 Cattle Ships arrived in the port in a filthy state after having landed Cattle elsewhere. They were cleansed under his supervision. The number reported in the previous year was 10.

Watch.

Watch continues to be kept on all vessels homeward bound from infected or suspected ports.

Pontoon Hospital.

On November the 18th a portion of roofing of the East Ward block of the Hospital was blown off during the severe gale from N.N.E. The damage was afterwards repaired by Messrs. Wood & Skinner, the builders of the Hospital.

Steam Launches.

On August 31st the furnace tube plate collapsed in the steam launch "Midge," from incrustation of salt on the crown; since the repairs the craft has worked well. The steam launch "Spark," which was engaged during the repairs to the "Midge," and was afterwards purchased, has been very useful for the purposes of the Assistant Medical Officers on cholera duty, and will be a relief to the "Midge" for general work. The "Spark" is at present undergoing alteration and repairs at Messrs. Cleland's Slipway, Willington Quay.

/ HENRY E. ARMSTRONG, D.H.V.,

Health Department,

Newcastle-upon-Tyne,

23rd January, 1894.

Medical Officer of Health.

* An increase of 2,516 (including 2,012 Herring Boats,) over the number in the previous year. From a return courteously furnished by Mr. McKENZIE, Quay Master, North Shields.

RIVER TYNE PORT SANITARY AUTHORITY.

CHOLERA, 1893.

REPORT—EXTENT OF THE EPIDEMIC.

Cholera has prevailed on the Continent of Europe with varying degrees of severity almost throughout the year. The presence of the epidemic abroad has during the whole of that period claimed the anxious attention of the Sanitary Authority and its Health Department. As early as January 6th, “†the following telegram from the Local Government Board, was received by the Medical Officer of Health, viz :—“ One case of sickness suspected Cholera taken from screw steamer “Incharran” sailed from Hamburg for Tyne last night.” The ship was watched for from the night of the 7th, the Medical Officer of Health remaining at North Shields for the purpose during Sunday the 8th. She did not arrive until the morning of the 10th inst. She was taken by Inspector Irvin to the Quarantine Buoys, shortly after which she was boarded by the Medical Officer of Health, who found the crew (25 hands at the time) “all well.” The original crew had been paid off at Hamburg on 2nd January. Whilst at that port, a fireman of the ship had been removed to the Cholera Hospital. The Medical Officer of Health directed the usual disinfecting, tank cleaning &c., which were effected by the Inspector. The usual addresses of destination were taken. No further case is known to have occurred.”

Early in the year, cases of suspicious Diarrhœa came under notice on board of ships in the Tyne, from Hamburgh, Rotterdam and Antwerp. Others on ships from the same or other Cholera infected ports, were reported as having occurred on the voyage or after arrival here. Lists of these are given on pages 5 and 16.

In the beginning of April, the prevalence of Cholera at Lorient on the North-west coast of France was officially announced.

The extent of danger of importation of Cholera to which the district has been exposed during the past year may be partly realized from the fact that the number of vessels from infected ports coming to the Tyne direct has averaged 136 per month, ranging from *minima* of 54 & 61 respectively in January & December, to *maxima* of 262 & 397 respectively in September & October. Details as to these arrivals are tabulated on pages 8 and 9.

Cholera on Shipboard.

During the year the number of cases of Cholera or suspected Cholera, reported on ships arriving in the port, as having occurred during the voyage, was 26, including 2 removed to Hospital at Hamburg, 1 removed to Hospital at Batoum and a second case on the voyage here, 1 case removed to Hospital at Ibrail and 1 on another ship after leaving that port, 1 (fatal) at Rotterdam, 1 from Zaandam, 1 (fatal) at Antwerp and another (recovered) after leaving that port, 1 (fatal) from Kurrachee viâ Hull, 10 (1 fatal) on voyage from Hamburgh, 1 from Dordt, and 4 on voyage from Norfolk, Virginia.

Seven Cases of suspected Cholera or Choleraic Diarrhœa in the Tyne Port were removed to Hospital and recovered there. The Corpses of two men who had died from Cholera (one on the voyage and one in port) also came under notice (see Appendix A.) Details of all the above cases are given on page 5, and in the following Return.

CHOLERA AND SUSPECTED CHOLERA

Date of Arrival.	NAME OF SHIP.	From.	No. of Cases of Disease.		REMARKS.	Notes on arrival in the Tyne.
			On voyage.	On or after arrival, etc.		
1893.						
Jan. 9	s.s. "Incharran" ...	Hamburg ...	1	...	Reported by L.G.B. A case of suspected cholera removed at Hamburg.	All well
Feb. 23	s.s. "City of Wakefield" ...	Batoum ... Rio Marino.	2	...	One removed at Batoum, and one on passage; both recovered.	"
Mar. 23	ship "Astree" ...	Hamburg ..	...	1	Suspected case removed to Tyne Floating Hospital. (See Appendix A.)	Vessel disinfected. No other case.
May 13	s.s. "Pine Branch".	Hamburg ...	1	...	Removed to Hospital at Hamburg.	All well
" 27	s.s. "Bala" ...	Ibrail ...	1	...	During voyage. Recovered.	"
June 10	bk. "Undine" ...	Hamburg ..	...	1	Case of suspected cholera on passage; recovered on arrival here.	Vessel disinfected.
" 25	s.s. "Myrtle Branch"	Nantes ...	...	1	Body of one of the crew removed to Tyne Floating Hospital for burial.	Effects of deceased destroyed, and vessel disinfected
Sept. 6	s.s. "Cordova" ...	Rotterdam ...	1	...	Chief engineer died after few hours illness at Rotterdam from suspected cholera.	Effects of deceased destroyed, and vessel disinfected at Rotterdam and at this port.
" 7	s.s. "Beamish" ...	Rotterdam ...	...	1	Master removed to Tyne Floating Hospital as suspected case. (See Appendix A.)	Vessel disinfected.
" 7	s.s. "Brenttor" ...	Ibrail ...	1	...	Case removed to Hospital at Ibrail; recovered.	All well
" 11	s.s. "Worsley Hall"	Zaandam ...	1	...	Case fatal at Rotterdam.	"
" 12	bk. "Thunderbolt".	Antwerp ...	1	...	Case fatal at Antwerp.	"
" 12	s.s. "Johannes Brun"	Antwerp ...	1	...	Case on passage; recovered.	"
" 15	s.s. "Rowton" ...	Kurrachee .. Via Hull.	1	...	Case on voyage; fatal.	Vessel disinfected.
" 18	bk. "Jenny" ...	Quebec ...	...	1	Fatal case on board at Pelaw Main buoys; body removed to Tyne Floating Hospital for P.M.	Effects of deceased destroyed and vessel disinfected
Oct. 8	sch. "Cuba" ...	London ...	...	1	Suspected case removed to Tyne Floating Hospital. (See Appendix A.)	Vessel disinfected.
" 16	s.s. "Grangewood".	Hamburg ...	10	...	All on voyage; one fatal.	"
" 22	sch. "Sea Lark" ...	Dordt ...	1	...	Master ill on previous voyage at Liverpool; recovered.	All well
" 26	R.T.C. Screw Keel..	Tyne ...	...	1	Removed to Tyne Floating Hospital; recovered. (See Appendix A.)	Vessel disinfected.
Nov. 26	s.s. "Alsatia" ...	Norfolk ... Virginia.	4	..	Cases on voyage; all recovered.	All well
			26	7		

177 cases of Diarrhoea (Choleraic and other), including 120 cases during voyage, and 57 on arrival or whilst in port, have been reported. See Table page 5 and Appendix B.

On June 25th, the S.S. "Myrtle Branch" from Nantes, a Cholera infected port, arrived in the Tyne, having on board the corpse of William Owen, a Fireman, who had died from Cholera three hours previously.

† "The Ship was removed to the Cholera Mooring Station and thoroughly disinfected. The beds were burnt in the stokehole furnace. The body was buried in Jarrow Cemetery, the Corporation of Jarrow having been previously informed as was arranged. The hearse was afterwards disinfected under Inspector Irvin's superintendence. It appears from the ships log that the "Myrtle Branch" had left Rosario (River Plate) on 26th April. On 24th May, she put into Cape Verd, St. Vincent, for Medical assistance for the Cook, who was suffering from Fever (not defined). The deceased man Owen was then also suffering from Diarrhoea, from which he recovered. The ship arrived at Nantes on 7th June and reported "All well." Whilst there the men went on shore occasionally. The ship left Nantes on June 20th. The deceased man Owen remained well, and on duty up to 5 a.m., on the 25th June, when he was seized with symptoms of Cholera, from which he died in about 9½ hours. The ship's drinking water had been obtained from the River Loire before reaching Nantes. What was left of it on arrival in the Tyne was disinfected and pumped overboard. No extension of infection took place whilst the vessel was in this Port."

Medical Examination of Ships.

Owing to reports on August 25th, as to the prevalence of Cholera at Rotterdam, the Medical Officer of Health obtained the sanction of the Chairman of the Authority to place Drs. F. W. Clark and W. R. Forster, who had previously been retained to act as Boarding Medical Officers, on continuous duty. This was done on August 28th, Dr. Clark as before taking Day, and Dr. Foster Night, duty. On August 29th the Hospital Committee confirmed this action, as also the engagement of additional men for the Launch "Midge." On September 9th, the Launch "Spark" previously engaged on hire was purchased.

On September 18th, the death of Hans Christian Hansen, after a very short illness suspected to be Cholera, was reported on board the Barque "Jenny" lying in the Tyne. As the man had not been seen during his illness by a Medical Practitioner, the body was removed to the Floating Hospital for examination.

† "A post mortem examination was made and part of the contents of the bowel were removed and forwarded for bacteriological examination to Professor George Murray, of Newcastle, who pronounced the case to be one of Asiatic Cholera. The Coroner authorised the immediate interment of the body, which was done with the usual precautions against spread of infection, the Medical Officer of Health and Town Clerk of Jarrow being duly informed beforehand. The origin of the case was not traced. The man had been on the ship in this port for a fortnight. He had been ashore at South Shields where there had previously been a case of Cholera. The Ship was disinfected by Inspector Irvin, acting under the direction of the Medical Officer of Health, and the bedding and clothing of the deceased man were burnt. No further case was reported."

During the period of continuous Medical Inspection, from 28th August to 2nd December (97 days), 840 Ships, or an average of 60 per week, carrying a total of 1,042 passengers and 13,212 hands, were examined by the Medical Officers; with very few exceptions, all of these had come direct to the Tyne from Cholera infected ports. The numbers show a large increase over the corresponding returns of the previous year when 497 ships were examined in 84 days, or an average of about 40 per week.

Cholera.

RETURN of Ships arriving in the Tyne and medically inspected, from August 28th to December 2nd, 1893.

NATIONALITY AND PORT OF DEPARTURE.	No. of Ships.	No. of Passengers.	No. of Crews.	NATIONALITY AND PORT OF DEPARTURE.	No. of Ships.	No. of Passengers.	No. of Crews.
Belgium :—				<i>Brought forward...</i>	429	511	6,858
*Antwerp - - -	49	197	855	Spain :—			
Ghent - - -	17	10	292	Bilbao - - -	22	5	424
Brussels - - -	1	...	5	Huelva - - -	3	...	55
Ostend - - -	1	...	17		25	5	479
	68	207	1,169	Norway :—			
Russia :—				Bergen - - -	1	...	?
Poti - - -	1	...	20	Stadt - - -	1	...	9
Cronstadt - - -	4	...	46	Sama - - -	1	...	8
Abo - - -	3	...	27	Frederickstadt - - -	1	...	4
Archangel - - -	3	1	30		4	...	?21
Kotka - - -	2	...	13	Germany :—			
Kemi - - -	1	...	12	Glückstadt - - -	2	...	27
Helsingfors - - -	3	1	38	*Hamburg - - -	179	349	3,051
Riga - - -	12	1	118	Bremen - - -	7	51	91
Batoun - - -	1	...	23	Memel - - -	2	...	18
St. Petersburg - - -	3	...	19	Rostock - - -	1	...	17
Libau - - -	1	...	5	Swinemunde - - -	5	1	170
Odessa - - -	3	1	71	Wilhelmshavn - - -	1	...	5
Nicholaeff - - -	2	...	47	Konigsberg - - -	6	4	66
Rafso - - -	1	...	6	Harburg - - -	3	...	16
Azof - - -	1	...	19	Stettin - - -	16	3	191
7 | S.S. "Beaumont" ...	41	4	494	Dantzig - - -	8	...	170
France :—				Tonning - - -	2	7	22
Gravelines - - -	2	2	23	Bremerhaven - - -	6	1	197
Dunkirk - - -	19	25	344	Brake - - -	1	...	17
Nantes - - -	4	1	32	Papenburg - - -	3	2	45
St. Nazaire - - -	2	1	35	Nordernham - - -	1	1	22
Trouville - - -	1	...	13	Flensburg - - -	1	...	18
Flushing - - -	4	14	85	Leer - - -	2	...	20
Honfleur - - -	4	1	63		246	419	4,163
Cannes - - -	1	2	16	Denmark :—			
Caen - - -	7	...	105	Copenhagen - - -	1	...	23
Rouen - - -	29	16	501	Sweden :—			
Havre - - -	28	8	492	Gefle - - -	1	...	9
St. Malo - - -	2	...	8	Sandhamn - - -	1	...	7
Roscoff - - -	2	...	10		2	...	16
Treport - - -	1	...	7	Roumania :—			
Dieppe - - -	6	1	81	Ibrail - - -	2	1	41
Calais - - -	7	4	119	England :—			
Brest - - -	1	1	13	Hull - - -	80	90	1,154
Cherbourg - - -	1	...	18	Grimsby - - -	41	16	333
Boulogne - - -	4	3	57	London - - -	5	...	?54
Fécamp - - -	1	...	12	Tyne - - -	1	...	12
Vivier - - -	11	...	42		127	106	?1,553
Carentan - - -	2	...	17	Canada :—			
	137	79	2,093	Quebec - - -	1	...	10
Holland :—				Italy :—			
*Rotterdam - - -	100	194	1,891	Rio Marina - - -	1	...	26
Zaandam - - -	6	2	139	Finland :—			
Dordt or Dordrecht - - -	18	4	113	Tornea - - -	1	...	16
Zierickzee - - -	4	...	20	Port not stated - - -	1	...	6
Delfszyhl - - -	1	...	7		2	...	22
Amsterdam - - -	47	18	815		840	1,042	13,212
Groningen - - -	1	...	5				
Harlingen - - -	1	...	14				
Terneuzen - - -	4	3	83				
Vlaardingen - - -	1	...	15				
	183	221	3,102				
<i>Carried forward...</i>	429	511	6,858				

* Passengers come frequently from these ports.

The Boarding, for Medical Examination, of Ships, has been much facilitated by the courtesy of the Collector, Mr. J. J. Head, and the Officers of H. M. Customs, also the Tyne Pilotage Commission, and their Chairman Capt. Coates. Acknowledgments are also due to the Harbour Master, River Police, and other Authorities of the Port for their co-operation and help in the work of the Authority.

Russian Emigrant Jews.

Two parties of emigrant Russian Jews have come to the Tyne. One of these (from Memel) consisted of 60 persons, in a filthy condition. The other (from Riga) comprised 21 persons. The Medical Officers of Health of the English Towns to which these emigrants were respectively bound, were duly informed.

Addresses of Destination.

The names and addresses of destination of 5,760 persons on 503 vessels, and wishing to go on shore, were taken under the Cholera Regulations by the Medical Officers, as compared with those of 3,079 persons on 220 ships during the epidemic time in 1892. During the year under report, a great saving of time and trouble has been effected by forwarding notices of these addresses direct to the Medical Officers' of Health of the Districts to which the persons were respectively about to visit, instead of, as previously, in the first instance forwarding them to these Officers through the Clerks of the two Authorities concerned.

False Addresses.

On July 8th, a stoker on board the S.S. "Myrtle Branch" was summoned and fined 20/- and costs, for giving a wrong address of destination. * "On September 4th, three men from the S.S. "Glenisle" from Ibrail—a Cholera infected port—left the ship and went to South Shields, without giving their addresses to the Boarding Medical Officer on duty, Dr. Forster. They were summoned before the Magistrates and fined 20/- each and costs. Dr. Gofton, Medical Officer of Health for Tynemouth reports, that the practice of falsely giving the North Shields Sailors' Home as a place of address, is frequent. Dr. Gofton furnished a list of names of men who had given the Home as their address, but had not gone there. All attempts to find these men afterwards were without effect."

"On 30th October, John Svendsen and David McLaughlan, two seamen on board of the S.S. "Benwell Tower," arriving from Dunquerque, a Cholera infected Port, gave false addresses of destination to the Boarding Medical Officer. Proceedings were taken against the two men for an offence under the Cholera Regulations. They were convicted and fined 20/- and costs each."

Ship without a clean Bill of Health.

On January 9th, the S.S. "Russian Prince" from Batoum arrived in the Tyne without a clean Bill of Health, owing, as we were informed, to the prevalence of Cholera, in or near Batoum. The hands (27 all told) shewed no sign of Choleraic ailment.

* Extract from Report of M. O. H.

Cargoes of Fruit or other Food from Infected Ports.

During the period 28th August to 2nd December, a total of 99 ships from infected ports, with cargoes of fruit or other food, including sugar, arrived and were examined, including the following :—

PORTS.	No. of Cargoes.	COMPRISING
Rotterdam - - -	13	Fruit and grain.
Hamburg - - -	32	Fruit, sugar, and salt.
Ghent - - -	12	Fruit.
Antwerp - - -	9	Fruit and potatoes.
Vivier - - -	11	Fruit.
Konigsberg - - -	3	Sugar.
Amsterdam - - -	3	Fruit.
Roscoff - - -	2	Onions.
Nicholaeff - - -	2	Grain.
Odessa - - -	3	Grain.
Harburg - - -	2	Salt.
Havre - - -	1	Salt.
Włocławek - - -	1	Grain.
Groningen - - -	1	Wheat.
St. Malo - - -	1	Fruit.
Gravelines - - -	1	Fruit.
Bremen - - -	1	Sugar.
Poti - - -	1	Grain.
TOTAL - . -	99	

Other Precautions, Preparations, and Work in connection with Cholera.

As previously stated—Drs. Clark and Forster began boarding duty on 28th August. The resignation of Dr. Clark on his appointment as Medical Officer of Health to the Borough and Port of Lowestoft, caused a vacancy which was filled by the appointment of Dr. Forster, who was succeeded as Boarding Medical Officer on Night duty by Dr. Matthews, who entered on duty on 16th October. The manner in which the visiting and examination of Ships has been carried out by these gentlemen from first to last leaves nothing to be desired. Inspector Irvin has done his somewhat arduous duty quietly and thoroughly, and has been supported by Assistant Inspector Evans and the hands of the Steam Launches, who have also worked well.

As already stated, a second Steam Launch, the "Spark" (twin screw) was acquired for Boarding purposes. During the height of the epidemic on the continent, the Authority resolved to engage a third launch to relieve the "Spark," and arrangements were made accordingly, but owing to the diminution of the work, this was fortunately not needed. The "Midge" and "Spark" were then put on alternate night and day duty, until the cessation of the Medical Examination of Ships on December 2nd. The "Spark" was then laid off for alteration and repair.

Water supply for Ships.

In accordance with Act IV. of the order of the Local Government Board of 6th September 1892, which provides that Water for Drinking and Cooking purposes may, when suspected, be ordered to be thrown overboard, and that in each case fresh water is to be supplied by the Port Sanitary Authority, a memorandum of instruction was issued to the Boarding Medical Officers,* and was acted on.

The Water Tanks or Casks of 106 Ships were emptied and disinfected by the Inspector acting under the direction of the Medical Officer of Health. Twenty-five of these were supplied with fresh water at the cost of the Sanitary Authority.

Infected or Suspected Ballast.

The Tanks of 221 vessels laden with *fresh water ballast* taken in at infected ports were pumped out under our order and afterwards disinfected by Inspector Irvin on my instruction.

25 Vessels in *fresh water sand ballast* taken, or suspected to be taken from the shores of infected ports were reported to me and inquired into. In each case when the M. O. H. was not fully satisfied from the explanation given him by the Master of the Ship, that there was no likelihood of the sand being infected, he refused to allow it to be landed. In such cases it was taken out to sea (usually by the Hoppers of the River Tyne Commission) and sunk.

† "There is no power to prevent discharge into the Dock or the River of Fresh Water Ballast taken in at an infected Port. On 11th September the S. S. "Worsley Hall" from Bassein via Yumdden and Zaandam, emptied Ballast water taken at the latter Port, which was infected with Cholera, into Palmer's Dry Docks, Jarrow, notwithstanding an express caution given to the Captain not to do so."

"Seeing the large quantity of infected water thus discharged, the danger to be anticipated is evidently much greater than that from bilge water for which provision is made by the Local Government Board Order which prohibits the discharge of such into any Dock or Basin. Fresh water sand ballast taken from the shores of infected ports may also if landed be the means of introducing Cholera. The landing of such ballast is therefore never sanctioned by the Medical Officer of

* See Appendix C.

† Extract from Report of M. O. H.

Health. Its discharge into Hoppers and sinking it in the sea is always recommended. Although there is no legal power to compel this to be done, by charging the master of the ship with the full responsibility of landing it, after due caution as to the possible result, the object in view is usually gained."

"It is to be desired that power were given to deal with each form of ballast from infected ports, without risk to the population in the neighbourhood of the Port."

The *Bilge Water* of all vessels from infected ports has been disinfected by the Inspector and pumped out under his supervision before the ship was allowed to enter a dock or basin.

Disinfecting Hulk.

The Authority having approved the Report of the Medical Officer of Health recommending the provision of a hulk fitted with apparatus for the disinfection of ships and their contents ;* in August the Hospital Committee, to whom the matter was referred, approved of the plans and estimates of Mr. Wm. George Laws, C.E.

The apparatus includes—

- 1.—*A Tank for Mercuric Drench* with means for flushing or spraying the Drench fore and aft on decks, into bilges, over dry ballast and the floors and sides of holds, forecastles, &c.
- 2.—*A Steam Disinfecting Chamber* for rags in bale, bedding, clothing, &c.
- 3.—*A Store house* for a stock of cylinders of *liquified sulphurous acid*.

The estimated cost of the whole is £775, including £150 for the hulk. The work was ordered to be put in hand, and sanction for the loan of the money was obtained from the Local Government Board. The Hulk "Perseverance" was acquired. The order for the disinfecting appliances was given to Messrs. Goddard Massey & Warner, Nottingham, and by the end of the year was partly executed.

CHOLERA REGULATIONS.

Orders of the Local Government Board.

Rags.—The previous Regulations relating to Rags were revoked by the Board's orders of 5th August and 13th September 1893 referring to "dirty bedding" and "disused or filthy clothing."

The reason for the withdrawal of the Board's prohibition of the landing of rags in bale from infected countries is not apparent. If, as is generally understood, rags are collected and stored for many months or even years before being sent to this country, stopping them *during* an epidemic of Cholera is not likely to prevent the introduction of infection into this country. There is, on the other hand, reason against the importation of such articles for a *long time afterwards*.

* See Report for the two months ended January, 1893, also Special Report on Hospital Requirements and Cholera Precautions, dated 4th May, 1893, ordered to be printed and circulated among the members of the Authority.

The Board's orders respecting bedding and clothing, above referred to, have received due attention.

Cost of Cholera Precautions—Past and Future.

Consequent on the Conference of Port Medical Officers of Health convened by the Lord Mayor of London, in December, 1892, a printed copy of the Report of which was forwarded to each member of the Authority, a Conference of Port Sanitary Authorities was held at the Guildhall, London, on 17th February last, at the instance of the Port of London Sanitary Authority, the Lord Mayor again presiding, when the following resolution among others was unanimously passed, viz. :—"That this Conference is of opinion that, inasmuch as special Cholera precautions carried out by the Port Sanitary Authorities of the Kingdom are for the benefit of the whole population, those precautions as far as they are special should be carried out at the Imperial expense." A second Meeting of Port Sanitary Authorities was held at the Westminster Palace Hotel, in April, when a deputation was appointed of seventeen Members of Parliament present, to obtain for the Port Sanitary Authorities an opportunity to urge the matter before the Chancellor of the Exchequer and the President of the Local Government Board. The result of the application of the Port Sanitary Authorities was unsuccessful. At the interview in question, the list of items of "Special and Extraordinary Expenses" for Cholera purposes, which was asked for and supplied, did not make any reference to the important matter of Disinfecting Apparatus. This, exclusive of disinfectants—a heavy item in Cholera times—is costing the Tyne Port Sanitary Authority close on £800. Seeing that the danger to the country from neglect of efficient disinfection in any case of Cholera brought by a ship is the same in one place as in another, the appliances requisite in this respect for the Tyne are equally requisite for every other port in the Kingdom, and altogether would cost about £40,000. But to most British ports, an outlay of £700 or £800 for such a purpose is more than they can either afford or reasonably be expected to incur. They have, therefore, neither provided this most efficient means of protection, nor are they likely to do so, and the country is, through the state of unpreparedness of these ports, open to attack. Nor is this all: A large number of our ports are grossly deficient in regard of other measures of protection against Cholera. This is abundantly shewn by the returns prepared for the information of the Conference of Port Sanitary Authorities,* and also by an editorial in a recent issue of the "*British Medical Journal*."† The latter being an exposition of opinions based on the *practice* instead of on the *requirements* of the Authorities in question, is virtually an advocacy of principles, not of efficiency, but of economy. The article in question reflects the views of those who seek to maintain that Port Cholera Expenses should not be paid out of the National Exchequer, and is calculated to have considerable weight with readers not conversant with the subject, or who view it from one side only. The writer of the article, whatever his object may have been, has certainly succeeded in proving beyond dispute that very little has been done to protect this country from invasion by Cholera through the only channels by which it can enter, viz., our seaports.

* A Summary of these Returns shewing statistics of the general unpreparedness of Ports to meet the introduction of Cholera was given in my paper on "Cholera Precautions" read at the meeting of the British Medical Association in Newcastle, in August, 1893. H. E. A.

† On Port Cholera Expenses, 13th January, 1894.

APPENDIX A.

Return of Cases Admitted to the Floating Hospital during the year 1893.

DATE OF ADMISSION.	DISEASE.	No. OF CASES.	FROM WHAT SHIP.	SHIPS, WHERE FROM.	RESULT AND DATE.
February 11th	* Dysentery ...	1	s.s. "Henrietta H" ...	Hamburg	Discharged February 20th.
March 14th	Choleraic Diarrhoea ...	1	bk. "Selene" ...	"	" March 16th.
" 16th	Enteric Fever ...	1	bk. "Ariel" ...	Bergen	" " 25th.
" 23rd	* Choleraic Diarrhoea ...	1	ship "Astree" ...	Hamburg	" " 27th.
June 15th...	Enteric Fever ...	1	schooner "Catherine" ...	Folkstone	Died June 23rd.
July 19th...	Measles ...	2	Training ship "Wellesley" ...	Tyne ...	Discharged August 4th.
" 22nd...	" ...	2	" " ...	" ...	" " 4th.
" 23rd...	" ...	1	" " ...	" ...	" " 5th.
" 24th...	" ..	3	" " ...	" ...	" " 5th.
" 26th...	" ...	2	" " ...	" ...	" " 5th.
" 29th...	† Dysentery ...	1	schooner "Venus" ...	Havre	" August 10th.
August 31st	Diphtheria ...	1	s.s. "President Ludwig" ...	Dunkirk	" September 7th.
September 7th	* Choleraic Diarrhoea ...	1	s.s. "Beamish" ..	Rotterdam	" " 8th.
" 17th	* " "	1	bk. "Svea" ...	Gefle ...	" " 26th.
October 8th	" "	1	schooner "Cuba" ...	London	" October 10th.
" 11th	+ Tonsillitis ...	1	bk. "Moya" ...	Gefle ...	" " 16th.
" 26th	* Choleraic Diarrhoea ...	1	River T. Commissioners' Screw Keel schooner "Esmeralda"	Tyne ...	" " 28th.
November 24th	† Febrile Catarrh ...	1	bk. "Excelsior" ...	Bremen	" November 28th.
December 4th	§ Effect of Exposure to Cold, etc.	1	s.s. "Elsie Maric" ...	Stettin	" December 7th.
" 18th	Enteric Fever ...	1	bk. "Stavanger" ...	Swinemunde ...	" " 30th.
" 27th	+ Tonsillitis ...	1		Rangoon	In Hospital at close of year.
		26			

* Removed as suspected cases of Cholera.

Diphtheria.

† Removed as suspected cases of Enteric Fever.

“ a “ case of Fever.

RIVER TYNE PORT

APPENDIX

Return shewing cases of Sickness * reported by Masters of Vessels as having
different months

DATE. 1893.		Cholera.	Supposed Cholera.	Smallpox.	Enteric (or Typhoid) Fever.	Diphtheria.	Yellow Fever.	Malarial Fever.	Fever and Ague.	Measles.	Influenza.	Blood Poisoning.	Diarrhœa & Choleraic Diarrhœa.	Dysentery.	Syphilis.	Gonorrhœa, &c.	Erysipelas.
January	...	...	1	3	...	...	...	1	...	...	2	1	15	1	1	...	...
February	...	2	...	...	^x 3	...	^x 1	6	...	...	8	...	10	^a 4	3	...	...
March ...	...	...	^a 1	1	^{xxa} 6	...	...	4	1	...	^x 16	...	^a 22	...	1	...	...
April ...	...	...	...	1	3	...	...	13	...	...	7	...	9	...	1	...	...
May ...	...	...	2	...	^x 7	...	...	1	...	...	1	1	24	...	1	...	...
June ...	...	^{bx} 1	1	2	^{ax} 4	...	...	^{xx} 13	4	...	...	1	18	^x 7	4	...	1
July ...	...	...	...	...	^{xxa} 3	...	...	...	1	^{aaaaa} 10 ^{aaaaa}	...	2	14	^{xx} 3	1	...	...
August	...	...	...	3	^{xxx} 4	...	^{xx} 6	^x 6	...	...	...	1	28	3	...	...	...
September	...	^{xxxx} 5	^{xa} 3	...	4	...	^x 3	4	...	...	...	...	^a 9	...	1	2	...
October	...	...	^{xaa} 13	...	1	...	...	16	...	...	4	...	10	3	2	...	...
November	...	...	4	...	^{ax} 3	...	^x 4	...	...	...	16	...	^x 17	8	3	1	...
December	...	...	...	...	^a 1	^a 2	...	...	...	...	15	...	1	...	...	...	...
TOTALS	...	8	25	10	39	2	14	64	6	10	69	6	177	29	18	3	1

* The names of the Diseases occurring during Voyage are given as reported by the Masters of the Vessels.

^a Removed to Tyne Floating Hospital.

^b The dead body of the Fireman of the S.S. "Myrtle Branch" taken to the Hospital previous to interment.

[†] Includes the dead body of the Steward of the Bk. "Jenny" taken to Hospital for P.M. Examination previous to interment.

SANITARY AUTHORITY.

B.

occurred during the Voyage, or coming under notice in Port in each of the
of the Year 1893.

Intemperance.	Rheumatism.	Consumption.	Beri Beri.	Paralysis.	Heart Disease.	Scurvy.	Bronchitis.	Cold.	Pneumonia.	Pleurisy.	Tonsillitis.	Colic.	Cramp.	Accident.	Dropsy.	Debility.	Abscess.	Fistula.	Ill-defined.	TOTALS.
...	1	...	...	...	^x 1	...	...	...	...	...	...	1	...	7	...	...	...	...	...	35
^x 2	3	3	^{xxxx} 6	...	^x 1	...	...	1	^x 5	1	...	..	...	^x 10	...	...	...	1	2	72
..	4	^x 2	...	...	...	...	1	4	...	...	..	...	...	6	...	..	...	1	3	73
1	5	...	...	...	^x 1	^x 2	1	1	...	...	1	...	1	...	...	...	1	...	1	49
...	1	1	...	1	..	...	...	3	...	...	2	...	1	^x 4	...	2	1	...	...	53
...	2	1	...	...	^x 1	...	...	6	^x 1	...	...	...	2	^x 5	...	^x 2	1	...	...	77
...	5	...	...	1	^x 1	...	2	...	^x 2	^x 1	2	1	2	^x 7	...	...	2	1	...	61
...	3	3	...	...	^{xx} 5	...	4	1	...	4	^a †1	7	...	5	...	...	...	...	1	85
...	1	^x 1	...	...	^x 2	...	...	...	...	...	...	3	3	3	...	3	...	...	...	47
1	6	1	...	...	...	...	1	2	...	2	^a †2	3	...	^x 7	1	1	1	...	...	77
...	1	^{xx} 2	...	...	^x 2	2	2	...	...	...	...	6	...	19	6	...	1	...	2	99
...	11	...	...	...	^x 1	...	5	^a||6	^x 1	...	1	2	...	6	...	1	1	...	...	54
4	43	14	6	2	15	4	16	24	9	8	9	23	9	79	7	9	8	3	9	782

|| Removed as a suspected case of Fever.

§ Removed as a suspected case of Cholera.

† Removed as suspected cases of Diphtheria.

^x Deaths.

RIVER TYNE PORT SANITARY AUTHORITY.

APPENDIX C.

DEPARTMENT OF MEDICAL OFFICER OF HEALTH,
TOWN HALL,

NEWCASTLE-UPON-TYNE,

29TH AUGUST, 1893.

CHOLERA REGULATIONS, 6TH SEPTEMBER 1892.

ARTICLE IV.

MEMORANDUM TO THE BOARDING MEDICAL OFFICERS.

Ships infected with Cholera, or coming from Ports infected with Cholera, are to be provided by the Port Sanitary Authority with a proper supply of water for drinking and cooking purposes for the persons on board.

On this being done, the Boarding Medical Officer on duty is to direct that all casks or tanks on board the ship containing water for the use of such persons are to be emptied and cleansed, and the Master shall cause the said directions to be carried into effect.

The Inspector is instructed to arrange for the provision of water on order signed by the Medical Officer of Health.

✓ (Signed)

HENRY E. ARMSTRONG, D.Hy.,

Medical Officer of Health.

